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Route To:

Subject: Insect and Disease Survey, Sacramento RD (sacramentord)

To: District Ranger, Sacramento RD

This letter documents the results of the insect and disease survey I conducted at several locations on the Sacramento RD on Tuesday and Wednesday, June 15 and 16, 2004, at the request of Dennis Dwyer. Dennis and Mickey Mauter, who accompanied us, were concerned about the scattered white fir and Douglas-fir mortality they were seeing on the District. In addition to those sites, Dennis, Mickey, and I also visited two areas currently being defoliated by the New Mexico fir looper, *Galenara consimilis*, and one area defoliated by the piñon needle scale, *Matsucoccus acalyptus.* Following is a brief summary of the survey results:

Several fading, dead white firs were examined in Cutting Unit 3 of the Deerhead Timber Sale area. This area consists of a white fir/locust/oak plant association that had recently been thinned to a basal area of 80 square feet per acre. Our observations indicated all of the dead trees were attacked by the fir engraver beetle, *Scolytus ventralis* (**Figure 1.)**

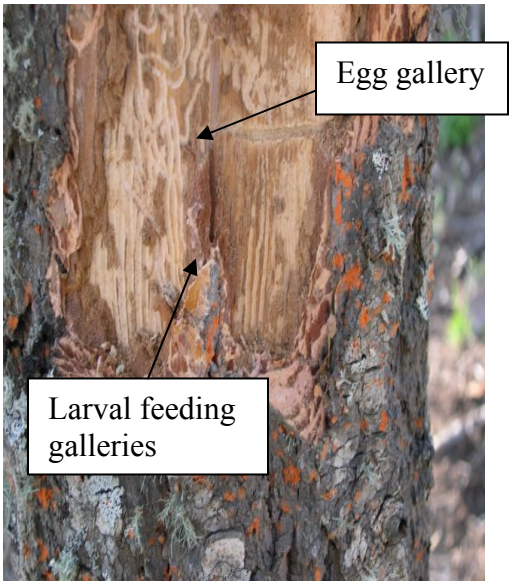

Figure 1. Fir engraver beetle, *Scolytus ventralis,* egg and larval feeding galleries on white fir.

The fir engraver beetle is an important pest of white fir. It attacks trees from pole-size to full maturity. Outbreaks occur during and following periods of drought. Trees infected with annosus root rot are especially susceptible to attack. Trees defoliated by Douglas-fir tussock

moth are also likely to be attacked by this insect. Fir engraver beetles also breed in slash and windthrown trees.

Our next stop was at the proposed Nelson Timber Sale Area, where Dennis and Mickey detected several dead pole-sized Douglas-fir trees. These trees were attacked and killed by an unknown species of scolytid bark beetle, *Scolytus sp.* (**Figure 2**).

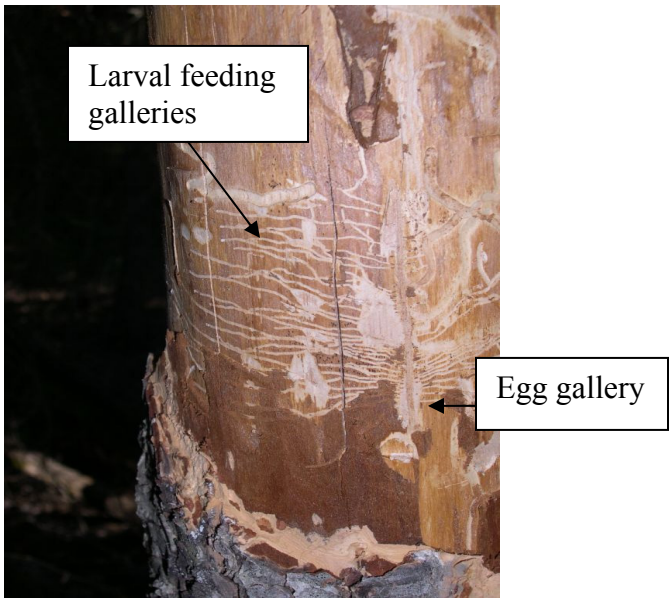

Figure 2. Unknown scolytid bark beetle, Sco*lytus sp.,* egg and larval feeding galleries.

Note the egg galleries and larval feeding galleries of *Scolytus sp*. (**Figure 2**) are vertical and horizontal, respectively, while the egg galleries and larval feeding galleries of *Scolytus ventralis* (**Figure 1**) are horizontal and vertical, respectively. The scolytid bark beetles attacking Douglas-fir are usually secondaries; however, they too can flare up during and following periods of drought.

We next did a reconnaissance of New Mexico fir looper, *Galenara consimilis*, defoliation along Willie White and Bear Canyons. New Mexico fir looper defoliation damages along Willie White Canyon were minor, consisting mainly of light to moderate needle loss. No looper-caused mortality was observed during the reconnaissance survey in Willie White Canyon. In Bear Canyon, however, fir looper-caused defoliation damages were significantly heavier (**Figure 3**).

Figure 3. New Mexico fir looper defoliation damages, Bear Canyon.

Many of these trees have been defoliated for four consecutive years or more, resulting in significant mortality of understory and overstory trees.

On our way back to the District office, we also detected severe piñon needle scale defoliation northwest of Mayhill along James Canyon (**Figure 4**).

Figure 4. Piñon needle scale defoliation, James Canyon.

Piñon needle scales are small, black, bean-shaped bumps on the surface of one-year-old piñon needles. These tiny, sap-sucking insects kill the needles and seriously weaken their host trees. Heavy infestations frequently kill small trees and predispose weakened larger trees to attack by other insects, especially bark beetles. Extensive areas of piñon needle scale defoliation often occur during periods of drought.

If you have any questions about this survey, please contact me at (505) 842-3287 or by e-mail at trogers@fs.fed.us.

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